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10/800,142	03/12/2004	Gary Lee Butler	325648	6797

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FAEGRE & BENSON LLP
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EXAMINER	
SAVANI, AVINASH A	
ART UNIT	PAPER NUMBER
3749	

NOTIFICATION DATE	DELIVERY MODE
09/02/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

e-OfficeActionHNI@faegre.com
dweiss@faegre.com

Office Action Summary	Application No.	Applicant(s)	
	10/800,142	BUTLER ET AL.	
	Examiner	Art Unit	
	AVINASH SAVANI	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-16,18-22,24-33 and 35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-16,18-22,24-33 and 35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 April 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. The following action is in response to the applicant's Request for Continued Examination dated 4/21/2008, that was in response to the Office action dated 11/20/2007. Claims 1-4, 6-16, 18-22, 24-33 and 35 are pending, claims 4, 6, 9-15, 19-22, 24, 26, 27 and 31 have been amended, while claims 5, 17, 23, and 34 have been cancelled, while the remaining claims are presented as previously claimed.

Response to Arguments

2. Applicant's arguments with respect to claims 1-4, 6-16, 18-22, 24-33 and 35 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, 6-16, 17-22, 24-33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rotili [4584987], further in view of Shimek [5941237].

5. With respect to claim 1, Rotili discloses a hydronic heating system (110), comprising: a combustion chamber enclosure having a plurality of panels (61, 62, 63) defining a combustion chamber for the combustion of fuel to generate heat [see FGI 1, col 4, line 34-38]; and a conduit substantially (116a-d, 113, 114, 115) embedded in at least one of the plurality of panels, the conduit configured to carry a heat conductive

liquid [see FGI 2, col 4, line 3-6], wherein the at least one panel has insulating properties such that the panel is configured to absorb heat from a heat source and transfer the absorbed heat to the liquid in the conduit [col 4, line 38-41], However does not disclose the condensation resistive properties as further claimed. From the applicant's disclosure, it is understood that the condensation resisting properties of the panels are due to the material used, i.e. a fibrous inorganic, wherein the material is an easily moldable material, or castable material as is the stamped material of Rotili to form the fireplace. Although Rotili is aware of importance of having an easily formable material to construct the fireplace, Shimek further discloses the use of fiber material used to cast form the fireplace [see FIG 11, col 5, line 37-42]. In view of Shimek, the material used is suitable for the high temperatures of fireplace and is easily moldable. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have a fireplace with the panels as claimed because an easily moldable material was known in the art, yielding the predictable result of easy manufacturability with the further benefit of resisting condensation.

6. With respect to claim 2, Rotili discloses the system of claim 1, however does not disclose the characteristics of the panel as claimed.

7. With respect to claim 3, Rotili discloses the system of claim 1, however does not further disclose the encapsulated outer surface of the conduit as claimed.

8. With respect to claim 4, Rotili discloses the system of claim 1, however does not disclose the formation of the panel as further claimed.

9. With regard to claims 2-4, Rotili discloses a hydronic heating system, wherein the conduit is believed to be encapsulated since it is integrally formed with in the panel {regard to claim 3} and the heat conductive properties of the panel are believed to be a high temperature material {regard to claim 4}. Shimek teaches a similar device wherein the material used to mold the combustion chamber is a fibrous material [col 5, line 42-57], wherein this type of material is understood to prevent condensation according to the applicant's specification. The chamber is formed via a casting process, and can be shaped into any form [see FIG 21, col 6, line 56-67, col 7, line 1-22], therein implying that the conduit would be encapsulated in a material to resist formation of condensation. In view of Shimek, the material used is a moldable fibrous material that can be cast into any desired shape. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Rotili with Shimek because Shimek was knowledgeable of a suitable material for a fireplace combustion chamber wherein the benefits are seen to allow casting of the chamber into any shape, therein allowing the casting of the conduits as is a concern of Rotili, while providing a beneficial advantage of preventing condensate formation.

10. With respect to claim 6, Rotili discloses the system of claim 1, further comprising a heat exchanger (111) configured to remove heat from the liquid in the conduit at a location remote from the combustion chamber enclosure [see FIG 1, col 3, line 27-34].

11. With respect to claim 7, Rotili discloses the system of claim 6, wherein a portion of the conduit extends through the heat exchanger [col 3, line 34-39].

12. With respect to claim 8, Rotili discloses the system of claim 1, further comprising a pump (505) configured to move the liquid in the conduit [col 10, line 9-13].

13. With respect to claim 9, Rotili discloses the system 1, wherein the at least one panel of the combustion chamber enclosure in which the conduit is embedded about the conduit such that the panel and the conduit are integrally formed [col 66-68, col 14, line 1-15], however does not disclose that it is molded. Shimek teaches a similar device wherein the panels are molded [col 6, line 56-67, col 7, line 1-22]. In view of Shimek, the molding allows a manufacturer to shape the panels to any specification. It would have been obvious to a person of ordinary skill in the art at the time of the invention to mold the panels because the technique was known in the art, yielding the predictable result of providing easy manufacturability and a technique to produce any desired form of a panel.

14. With respect to claim 10, Rotili discloses the system of claim 1, wherein the heat source is adapted to be removable from the system [see FIG 1 and abstract]. Since the fireplace is wood burning, it is inherently implied that the heat source, i.e. wood, can be removed.

15. With respect to claim 11, Rotili discloses the system of claim 1, however does not disclose moldable material as claimed. Shimek teaches a similar device wherein the at least one panel is formed of a moldable material that includes a ceramic fiber and a binder [col 3, line 24-28]. In view of Shimek, the molding is a ceramic fiber material and a binder that allows a manufacturer to shape the panels to any specification. It would have been obvious to a person of ordinary skill in the art at the time of the invention to

mold the panels because the technique was known in the art, yielding the predictable result of providing easy manufacturability and a technique to produce any desired form of a panel.

16. With respect to claim 12, Rotili discloses the wherein a portion of the liquid-carrying conduit is integrally formed together with at least two panels of the combustion chamber enclosure [see FIG 1].

17. With respect to claim 13, Rotili discloses the system of claim 1, wherein the combustion chamber enclosure is part of a fireplace [see FIG 1].

18. With respect to claim 14, Rotili discloses a hydronic heating system (110) for a fireplace, the system comprising: a conduit (116a-d) adapted to carry a liquid [see FIG 2, col 4, line 3-6]; and a combustion chamber enclosure having a plurality of panels (61, 62, 63) defining a combustion chamber for the combustion of fuel to generate heat [see FIG 1, col 4, line 34-38], the conduit being substantially embedded within at least one of the panels [see FIG 2], however does not disclose the further properties of the apparatus. Shimek teaches a similar device wherein the panels having insulative properties and being integrally formed from a ceramic moldable material using a molding process and configured to resist formation of condensation on the panels [col 3, line 24-28]. In view of Shimek, the material used is suitable for the high temperatures of fireplace and is easily moldable. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have a fireplace with the panels as claimed because an easily moldable material was known in the art, yielding the predictable result of easy manufacturability with the further benefit of resisting condensation.

19. With respect to claim 15, Rotili discloses the system of claim 14, however does not disclose the molding process as further claimed.

20. With respect to claim 16, Rotili discloses the system of claim 14, however does not further disclose the moldable material.

21. With regard to claims 15 and 16, Rotili discloses a hydronic heating system, however Shimek teaches a similar wherein the panels are formed using a molding process that includes at least one of a compression molding process and a vacuum molding process [col 6, line 56-67, col 7, line 1-22] and wherein the moldable material includes a ceramic fiber and a binder [col 3, line 24-28]. In view of Shimek, the molding is a ceramic fiber material and a binder that allows a manufacturer to shape the panels to any specification. It would have been obvious to a person of ordinary skill in the art at the time of the invention to mold the panels because the technique was known in the art, yielding the predictable result of providing easy manufacturability and a technique to produce any desired form of a panel.

22. With respect to claim 18, Rotili discloses system of claim 14, wherein the panels of the combustion chamber enclosure are integrally formed as a single piece [see FIG 1].

23. With respect to claim 19, Rotili discloses a method of manufacturing a hydronic heating system that includes a panel and a liquid-filled conduit, the method comprising the steps of: forming a panel [see abstract]; encapsulating a conduit in the panel such that the panel is adapted to absorb and conductively transfer heat to a liquid in the conduit [see FIG 2, col 4, line 3-6]; forming a combustion chamber [see FIG 2]; and

attaching the panel adjacent the combustion to transfer heat from the combustion chamber to the liquid-filled conduit [col 4, line 34-38], however does not disclose the formation of the panel as claimed. Shimek teaches a similar device wherein panel from a moldable material having insulative properties and including a ceramic fiber and a binder, the panel being adapted to resist formation of condensation on an outer surface of the panel [col 3, line 24-28, col 6, line 56-67, col 7, line 1-22]. In view of Shimek, the molding is a ceramic fiber material and a binder that allows a manufacturer to shape the panels to any specification. It would have been obvious to a person of ordinary skill in the art at the time of the invention to mold the panels because the technique was known in the art, yielding the predictable result of providing easy manufacturability and a technique to produce any desired form of a panel.

24. With respect to claim 20, Rotili discloses the method of claim 19, however does not disclose the formation of the panel. Shimek teaches a similar device wherein the panel is formed using a casting process [see FIG 21, col 6, line 56-67, col 7, line 1-22]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Rotili with Shimek because Shimek was knowledgeable of a suitable material for a fireplace combustion chamber wherein the benefits are seen to allow casting of the chamber into any shape, yielding the predictable result of allowing the easy manufacturability of the panels.

25. With respect to claim 21, Rotili discloses the method of claim 19, wherein forming the panel includes forming the panel as part of a combustion chamber enclosure, the combustion chamber enclosure defining a-the combustion chamber [see FIG 1].

26. With respect to claim 22, Rotili discloses the method of claim 21, wherein a portion of the conduit is encapsulated in the panel, however does not disclose this by a molding process.

27. With respect to claim 24, Rotili discloses the method of claim21, however does not further disclose the encapsulating step.

28. With regard to claims 22 and 24, Rotili discloses a method of manufacturing a hydronic heating system, however Shimek teaches a method of molding a panel [col 6, line 56-67, col 7, line 1-22]. In view of Shimek, panel is formed of a molding and can be shaped to incorporate a conduit in single or multiple panels. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have a fireplace with the panels as claimed because an easily moldable material was known in the art, yielding the predictable result of easy manufacturability with the further benefit of resisting condensation. Having the conduits incorporated in a plurality of panels is also found to be obvious to a person of ordinary skill in the art at the time of the invention because it yields the predictable result of exposing the fluid to the heat source for a longer amount of time.

29. With respect to claim 25, Rotili discloses the method of claim 21, wherein the panels of the combustion chamber enclosure are integrally formed as a single piece [see FIG 1].

30. With respect to claim 26, Rotili discloses the method of claim 19, further comprising mounting the panel to at least one of an outer surface and an inner surface of a heat generating device [see FIG 1].

31. With respect to claim 27, Rotili discloses a hydronic heating system (110) for a fireplace, the system comprising: a combustion chamber enclosure having a plurality of panels (61, 62, 63) defining a combustion chamber for the combustion of fuel to generate heat [see FIG 1, col 4, line 34-38] ; and a heat exchanger (111), including: a panel of insulative material and a liquid-filled conduit embedded with the panel, wherein the panel is coupled to the combustion chamber enclosure [see FIG 2, col 4, line 3-6], however does not further disclose the molding of the panels. Shimek teaches a similar device having molded panels, wherein if used to modify Rotili would show the technique of molding the panels with the conduit molded therein [see FIG 11, col 5, line 37-42]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Rotili with Shimek because Shimek was knowledgeable of a suitable material for a fireplace combustion chamber wherein the benefits are seen to allow casting of the chamber into any shape, therein allowing the casting of the conduits as is a concern of Rotili, while providing a beneficial advantage of preventing condensate formation.

32. With respect to claim 28, Rotili discloses the system of claim 27, further comprising an outer enclosure configured to enclose the combustion chamber enclosure and being spaced apart from the combustion chamber enclosure to define a plenum there between, wherein the heat exchanger is positioned adjacent to the outer enclosure [see FIG 3].

33. With respect to claim 29, Rotili discloses the system of claim 28, wherein the heat exchanger (111) is coupled to an outer surface of the outer enclosure [see FIG 2].

34. With respect to claim 30, Rotili discloses the system of claim 28, wherein the heat exchanger is positioned within the plenum [see FIG 3].

35. With respect to claim 31, Rotili disclose the system of claim 27, wherein the panel extends along at least two or more panels of the combustion chamber enclosure [see FIG 1], however does not disclose that the panels are molded. Shimek teaches a similar device wherein the panels are molded [col 6, line 56-67, col 7, line 1-22]. In view of Shimek, the molding allows a manufacturer to shape the panels to any specification. It would have been obvious to a person of ordinary skill in the art at the time of the invention to mold the panels because the technique was known in the art, yielding the predictable result of providing easy manufacturability and a technique to produce any desired form of a panel.

36. With respect to claim 32, Rotili discloses the system of claim 27, wherein the panel is positioned adjacent to a panel of the combustion chamber enclosure within the combustion chamber [see FIG 1], however does not disclose that the panel is molded. Shimek teaches a similar device wherein the panels are molded [col 6, line 56-67, col 7, line 1-22]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to mold the panels because the technique was known in the art, yielding the predictable result of providing easy manufacturability and a technique to produce any desired form of a panel.

37. With respect to claim 33, Rotili disclose the system of claim 27, wherein the molded panel defines at least one panel of the combustion chamber enclosure, however does not disclose that the panel is molded. Shimek teaches a similar device wherein the

panels are molded [col 6, line 56-67, col 7, line 1-22]. In view of Shimek, the molding allows a manufacturer to shape the panels to any specification. It would have been obvious to a person of ordinary skill in the art at the time of the invention to mold the panels because the technique was known in the art, yielding the predictable result of providing easy manufacturability and a technique to produce any desired form of a panel.

38. With respect to claim 35, Rotili discloses the system of claim 27, wherein the liquid-filled conduit is defined by a pipe member, however does not disclose a portion of the pipe member is molded into the molded panel. Shimek teaches a similar device wherein the panels are molded [col 6, line 56-67, col 7, line 1-22]. In view of Shimek, the molding allows a manufacturer to shape the panels to any specification. It would have been obvious to a person of ordinary skill in the art at the time of the invention to mold the panels because the technique was known in the art, yielding the predictable result of providing easy manufacturability and a technique to produce any desired form of a panel including the embedding of conduits.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AVINASH SAVANI whose telephone number is (571)270-3762. The examiner can normally be reached on Monday- Friday, alternate Fridays off, 7:30-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Avinash Savani/
Examiner, Art Unit 3749

/Steven B. McAllister/
Supervisory Patent Examiner, Art Unit 3749

/A. S./
8/26/2009